UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,851	04/24/2001	Douglas H. Beeferman	10984-499001	5713

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EXAMINER
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ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Office Action Summary	Application No.	Applicant(s)	
		09/840,851	BEEFERMAN, DOUGLAS H.	
		Examiner	Art Unit	
		Cam Y T Truong	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-42* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-42* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 20050303

DETAILED ACTION

1.   Claims 1-42 are pending in this Office Action.

Applicant has amended claims 1-6, 14-20, 28-34 and 42 in the amendment filled

on 6/7/2003.

Applicant's arguments with respect to claims 1-42 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 6, 9-13, 15, 20, 23-27, 29, 34 and 37-41 are rejected under 35 U.S.C.

103(a) as being unpatentable over Schwartz et al (USP 6405188) in view of Turtle (US

5265065).

As to claims 1 and 15, Schwartz teaches the claimed limitations:

"searching the documents for occurrences of the words individually" as the query

engine receives a query. The query contains any number of words. After receiving a

query, the query engine looks up each query word in a matrix. In this step, the query

engine receives an indication of each document and the number occurrences of that

word in each document. For example, if the word Clinton were used as part of a query,

the information returned may indicate that doc1 contained two occurrences. The above

information shows that the search engines search documents for occurrences of the

words individually (col. 8, lines 2-12);

"receiving a phrase comprised of the words" as (col. 9, lines 45-46);

"retrieving the data for the words from the database in response to receiving the

phrase" as (col. 4, lines 35-45);

"and determining, based on the data, whether to perform a text search for the

phrase as a whole or for the words individually" as if the training data had a query

President Clinton, this query would be performed on the query engine. Next, the

system trainer generates a new query. In this step, the query engine has returned a

predetermined number e.g., 5 of the most relevant documents for each query found in

the training data. In summary, the improved IR system estimates how much more likely

a particular query word to appear in a document given that the document is relevant to

the query and given features of the query word, such as the form of the word, whether

the word was in the original user query, how many of the original retrieved documents

e.g., 3 out 5 in which this word occurs, and the fraction of the documents out of all of the

documents that contain this word. This information shows that the system determines

the training data to perform a text search for the words individually (col. 7, lines 20-60).

Schwartz does not explicitly teach the claimed limitation "establishing a database

containing data indicative of whether words occur in text in series, adjacent, or within a

number of additional words of each other, wherein establishing comprises: searching

documents for occurrences of the words in series, adjacent, or within a number of

additional words of each; generating the data based on both searches of the documents".

Turtle teaches the claimed limitations:

"establishing a database containing data indicative of whether words occur in text in series, adjacent, or within a number of additional words of each other" as using document database 146 which also contains the text of the documents, the frequency that each term appears in database 146 is determined and the frequency that the term appears in the respective text. The frequency is represented as data indicative of words occur in text in adjacent. The term is represented as a phrase that has more than two words (col. 17, lines 45-50);

"wherein establishing comprises: searching documents for occurrences of the words in series, adjacent, or within a number of additional words of each" as searching documents for occurrences of phrases (col. 15, lines 1-30);

"generating the data based on both searches of the documents" as resulting search query is created and based on searching of the documents (col. 17, lines 45-55; col. 18, lines 1-7).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Turtle's teaching of using document database 146 which also contains the text of the documents, the frequency that each term appears in database 146 is determined and the frequency that the term appears in the respective text, searching documents for occurrences of phrases and resulting search query is created and based on searching of the documents to Schwart's system in order to

allow users to search/retrieve phrase or idioms in any sense correctly and further to

provide a computer implemented process performing a search query in which a

database is provided containing domain-knowledge specific phrases.

As to claims 6, 20 and 34, Schwartz and Turtle disclose the claimed limitation subject

matter in claim 1, except the claimed limitation "comparing the data to a predetermined

threshold.....performing the text search for the words individually if the data does not

exceed the predetermined threshold". However, Schwartz teaches retrieving

documents (col. 1, lines 25-30). Turtle teaches that phrases are treated in a manner

similar to proximity terms, except that a document, which does not contain the full

phrase receives a partial score for a partial phrase. For example, if a query contains

the phrase Federal Tort Claims Act and a document contains the phrase tort claims but

not Federal Tort Claims Act, the document will receive a score based on the frequency

distribution associated with Tort Claims. FIG. 7 is a flow diagram illustrating the

process of handling partial matches. As shown at step 68, the full phrase is evaluated

against the collection as heretofore described. The inverse document frequency

idf.sub.i is determined for the full phrase step, and if idf.sub.i is greater than a

predetermined threshold e.g., 0.3 the maximum belief achieved for any subphrase or

single term is selected as the belief for the partial phrase step . If idf.sub.i is smaller or

equal to the threshold value 0.3, the preselected default belief 0.4 is assigned to the

documents containing the partial phrase step (col. 14, lines 67-68; col. 15, lines 1-17).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Turtle's teaching of phrases into Schwartz's system in

order to perform phrase searching and word searching and further to find the most

relevance document corresponding user's query.

As to claims 9, 23 and 37, Schwartz teaches the claimed limitation "the words

comprise two or more words in series" as (col. 9, lines 45-46).

As to claim 10, 24 and 38, Schwartz teaches the claimed limitation "if it is

determined to perform the text search for the phrases as a whole, the method further

comprises: perform the text search for the phrase as a whole" as (col. 7, lines 10-55).

As to claims 11, 25, 39, Schwartz teaches the claimed limitation "performing the

text search for the words individually after performing the text search for the phrase as a

whole" as (col. 7, lines 10-55).

As to claims 12, 26, 40, Schwartz teaches the claimed limitation "if it is

determined to perform the text search for the words individually, the method further

comprises: performing the text search for the words individually" as (col. 7, lines 20-40).

As to claims 13, 27, and 41, Schwartz teaches the claimed limitation "issuing a

message, based on a result of the determining, asking whether to perform the text

search for the phrases as a whole; and performing the text search for the phrase as a

whole or for the words individually based on a response to the message" as (col. 6,

lines 20-67; col. 7, lines 10-40).

As to claim 29, Schwartz teaches the same claimed limitations in claims 1 and

15, except the claimed limitation "a memory that stores executable instructions; a

processor that execute the instruction" as (col. 4, lines 53-65).

6.   Claims 2-5, 16-19, 30-33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Schwartz et al (USP 6405188) in view of Turtle and further in view of

Chou et al (USP 6505151).

As to claims 2, 16 and 30, Schwartz does not explicitly teach the claimed

limitation "a metric indicative of the probability that the words occur in series, adjacent,

or within a number of additional words of each other in text of the documents".

However, Schwartz teaches probability of particular words being related to a particular

topic (col. 5, lines 20-25). Chou teaches the ratio of the n-word combinations are

calculated as word1/word2 = 22484/2778 =12.6 (col. 7, lines 55-67).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Chou's teaching of ratio of the n-word to Schwartz's

system in order to improve text search effectively and to search/retrieve noun-phrases

or idioms in any sense correctly and further to find the most relevance document

corresponding user's query.

As to claims 3, 17 and 31, Schwartz teaches the claimed limitation "a probability that the words will occur individually" as probability of particular words being related to a particular topic (col. 5, lines 20-25). Schwartz does not explicitly teach the claimed limitation "the metric is determined based on a probability that the words occur in series, adjacent, or within a number of additional words of each other. Chou teaches the ratio of the n-word combinations i.e., 1-word combination is calculated as word1/word2 = 22484/2778 =12.6. and 5-word combination word 1/word 2 = 1/1/=1 (col. 7, lines 55-67).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Chou's teaching of ratio of the n-word to Schwartz's system in order to improve text search effectively and to search/retrieve noun-phrases or idioms in any sense correctly and further to find the most relevance document corresponding user's query.

As to claims 4, 18 and 32, Schwartz teaches the claimed limitation "a probability that the words will occur individually" as probability of particular words being related to a particular topic (col. 5, lines 20-25). Schwartz does not explicitly teach the claimed limitation "wherein the metric comprises a ratio of the probability that the words occur in series, adjacent, or within a number of additional words of each other". Chou teaches the ratio of the n-word combinations i.e., 1-word combination is calculated as

word1/word2 = 22484/2778 =12.6 and 5-word combination word 1/word 2 = 1/1/=1 (col. 7, lines 55-67).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Chou's teaching of ratio of the n-word to Turtle's system and Schwartz's system in order to improve text search effectively and to search/retrieve noun-phrases or idioms in any sense correctly and further to find the most relevance document corresponding user's query.

As to claims 5, 19 and 33, Schwartz teaches the claimed limitation "the documents comprise World Wide Web pages" as (col. 4, lines 45-52).

8.   Claims 7-8, 21-22 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (USP 6405188) in view of Turtle and further in view Wong et al (USP 6128613).

As to claims 7, 21 and 35, Schwartz and Turtle disclose the claimed limitation subject matter in claim 6, 20, and 34, except the claimed limitation "wherein the text search is performed on another database". However, Schwartz teaches retrieving any items of information include web sites, articles, and other information sources (col. 4, lines 45-53). Also, Wong teaches storing documents on databases (col.1, lines 45-50).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Wong's teaching of storing documents on databases

to Schwartz's system and Turtle's system in order to allow searching/retrieving any document on different databases and provide the most relevant documents to a user.

As to claims 8, 22 and 36, Schwartz and Turtle disclose the claimed limitation subject matter in claim 7, 21, and 35, except the claimed limitation "wherein the other database comprises Web databases on the Internet". However, Schwartz teaches retrieving any items of information include web sites, articles, and other information sources (col. 4, lines 45-53). Also, Wong teaches storing documents in databases i.e., web on Internet (col. 1, lines 64-67; col. 2, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Wong's teaching of storing storing documents in databases i.e., web on Internet to Schwartz's system and Turtle's system in order to search/retrieve documents easily.

9.   Claims 14, 28 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al (USP 6405188) in view of Turtle and further in view of Husick et al (USP 5717914).

As to claims 14, 28 and 42, Schwartz and Turtle discloses the claimed limitation subject matter in claim 1, 15 and 29, except the claimed limitation "wherein the text search is performed in a past query log". Schwartz teaches retrieving documents (col. 9, lines 64-65). Husick teaches a query log table database 119 within the accounting database 119 is used by data center 110 (col. 36, lines 64-67).

It would have been obvious to a person of an ordinary skill in the art at the time

the invention was made to apply Husick's teaching of a query log table database 119

within the accounting database 119 is used by data center 110 to Schwartz's system

and   Turtle's system in order to log database during processing queries.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

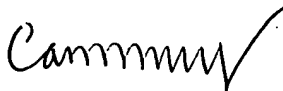applicant's disclosure.

Schultz (US 5640553).

Contact Information

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cam Y T Truong whose telephone number is (571) 272-

4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Cam-Y Truong
Patent Examiner
Art Unit 2162
3/3/2005